DIRECT TESTIMONY OF

HAMILTON DAVIS

ON BEHALF OF THE

SOUTH CAROLINA SOLAR BUSINESS ALLIANCE, INC.

BEFORE THE

PUBLIC SERVICE COMMISSION

OF SOUTH CAROLINA

DOCKET NO. 2018-318-E

Application of Duke Energy Progress, LLC for Adjustments in Electric Rate Schedules and Tariffs and Request for an Accounting Order

March 1, 2019

I. INTRODUCTION AND PURPOSE OF TESTIMONY

Q. Please state your name and business address.

A. My name is Hamilton Davis, and my business address is 1519 King Street Extension, Charleston, SC 29405.

Q. Please provide your educational background.

A. I have a Bachelor of Science from Clemson University and a Juris Doctor from the University of South Carolina School of Law.

Q. Please describe your work and professional experience.

A. I currently serve as the Director of Regulatory Affairs for Southern Current, LLC where I manage the company's regulatory engagements before the Federal Energy Regulatory Commission and multiple state utility commissions, including the South Carolina Public Service Commission, the North Carolina Public Utilities Commission, the Georgia Public Service Commission and the Michigan Public Service Commission. My work also supports the company's policy initiatives before various state legislatures. Prior to my employment with Southern Current, I worked in business development on commercial and utility scale solar projects for Solbright Energy Solutions, LLC. I also served as the Energy & Climate Director for the South Carolina Coastal Conservation League where I was employed from 2006 – 2016. In that role I supported the advancement of a multitude of energy policy and regulatory issues at the state and federal level. While at the League, I was a registered South Carolina lobbyist and negotiated several comprehensive energy initiatives, including South Carolina's landmark solar legislation, Act 236. Since 2006, I have served on a variety of boards and committees focused on energy policy and regulation, including the Energy

Advisory Council for the South Carolina Public Utility Review Committee, the South Carolina Energy Office Advisory Committee, the South Carolina Offshore Wind Regulatory Task Force, and both the South Carolina Offshore Oil & Gas and Offshore Wind Legislative Study Committees.

Q. Have you previously appeared in a proceeding before the South Carolina Public Service Commission?

A. Yes. I have participated in multiple Allowable Ex Parte Briefings held before this Commission. My most recent appearance before this Commission was on behalf of the South Carolina Solar Business Alliance for an Allowable Ex Parte Briefing held on October 23, 2018.

Q. What is the purpose of your testimony?

A. The SC Solar Business Alliance, Inc. (SCSBA) believes it is critical for South Carolina to plan for and invest in grid infrastructure that reflects 21st century energy realities, and we commend Duke Energy Progress (DEP) for its efforts in identifying many of the major trends shaping the energy landscape of today and the future. However, we also have significant concerns about the efficacy of DEP's Grid Improvement Plan (Plan) as currently proposed. I will primarily be detailing those concerns in my testimony.

Q. How is your testimony organized?

A. My testimony is organized as follows:

I. First, I provide a general overview of my impressions of the DEP Plan.

II. Second, I describe shortcomings of the DEP Plan as it relates to interconnection of distributed energy resources like utility scale solar projects.

III. Third, I explain why a more comprehensive approach to integrated resource planning is necessary for informing DEP's Plan.

IV. Fourth, I describe how a rigorous integrated distribution planning process should be a prerequisite for approval of DEP's Plan.

V. Fifth, I identify shortcomings in the DEP Plan as it relates to transparent and measurable customer benefits.

VI. Sixth, I raise concerns about DEP's request for this Commission to conduct an advanced prudency review for proposed grid related spending in its Plan.

VII. Seventh, I provide a summary of the concerns outlined above and concluding remarks on my testimony.

Q. Are you sponsoring any exhibits?

A. Yes, I have attached six (6) total exhibits described below:

Exhibit THD-1: *Energy in Action*, South Carolina State Energy Plan: IRP Guidelines, South Carolina Office of Regulatory Staff Energy Office (2016).

Exhibit THD-2: *Modernizing the Grid in the Public Interest: Getting a Smarter Grid at the Least Cost for South Carolina Customers*, GridLab (January 2019).

Exhibit THD-3: *South Carolina Energy Freedom Act*, H.3659, Session 123 (2019-2020).

Exhibit THD-4: *Modeling Clean Energy for South Carolina: An Alternative to Duke's Integrated Resource Plan*, Synapse Energy Economics, Inc. (January 2019).

Exhibit THD-5: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC Generator Interconnection Report Pursuant to Order No. 2018-803(A), Docket No. 2018-202-E (January 2019).

Exhibit THD-6: South Carolina Electric & Gas, Dominion Energy, and South Carolina Solar Business Alliance Merger Settlement Agreement, Docket No. 2017-370-E (November 2018).

II. GENERAL IMPRESSIONS OF DEP'S PLAN

Q. What has DEP done well in its Plan?

A. DEP has identified a series of legitimate "megatrends" that the utility industry is currently faced with: grid security, DEP capacity, growth in electric vehicles, customer preferences for emissions reductions, increasing frequency and severity of storms, and customer service demands[1]. DEP also identified a range of program options that would begin to address these megatrends, and many of the grid investments DEP seeks approval for in this proceeding will likely be necessary for modernizing the electric grid. In addition, while developing its Plan, DEP hosted two stakeholder engagement sessions to preview and receive feedback on its proposed path forward.

[1] *In the Matter of: Application of Duke Energy Progress, LLC For Adjustments in Electric Rate Schedules and Tariffs,* Direst Testimony of Jay W. Oliver for Duke Energy Progress, LLC, before the Public Service Commission of South Carolina, Docket No. 2018-318-E (November 8, 2018) (Oliver Exhibit 2).

Q. What are your general concerns with DEP's Plan?

A. The Plan fails to address existing challenges on DEP's distribution system related to interconnection of distributed energy resources, especially solar resources that are not sited behind a customer's meter but connect directly to the distribution system. The Plan has not been informed by a robust integrated resource planning process that adequately considers a range of portfolio options and sensitivity analyses that ensure the utility's investment decisions appropriately reduce risk and cost for its customers. The Plan was not developed within the context of an integrated distribution planning process that has been vetted by either policy makers or regulators in South Carolina. The Plan fails to clearly identify the benefits that will flow to customers as a consequence of the proposed investments and does not include a regulatory mechanism for measuring the Plan's effectiveness. Finally, the cost recovery approach DEP has proposed for recovering its grid investments places unnecessary risk on customers while ignoring any performance metrics that would otherwise be considered as part of a prudency determination within a rate case.

III. INTERCONNECTION

Q. What are your specific concerns with DEP's Plan related to interconnection of distributed energy resources?

A. As this Commission is well aware, interconnection challenges and delays continue to afflict the DEP interconnection queue. There are numerous projects that received queue assignments as far back as 2015 but have yet to receive an Interconnection Agreement or

be removed from the interconnection queue. In some cases, there are legitimate and transparent reasons for why a project has been delayed, but in many other instances the reasons for such delays are opaque and unjustified. No solution to this impasse has yet to be identified. Given that growth in DER capacity is both a megatrend identified by DEP and a desired outcome supported by stakeholders, customers and DEP[2], the Plan falls well short of charting a viable path forward for these resources. Although the Plan calls for investment in programs such as Integrated Systems Operations Planning, Power Electronics for Volt/VAR, and a DER Dispatch Tool[3], exactly how these investments will alleviate interconnection challenges and lead to increased levels of distributed energy resources is unclear. In fact, there is no performance metric proposed by DEP by which this Commission or other stakeholders could gauge the success of DEP's grid investments meant to address DER capacity.

Q. What are some examples of improvements DEP could make to its Plan that would positively impact interconnection issues moving forward?

A. Circuit-specific load forecasting and circuit-specific DER hosting capacity analyses could provide both transparency and direction for solar developers when siting projects. By conducting circuit-specific load forecasting, DEP could identify areas where non-wires alternatives, like solar plus storage, would reduce the peak demand of a circuit or substation and defer or avoid utility investments, thus resulting in ratepayer savings. Circuit-specific DER hosting capacity analyses would serve to address concerns DEP has raised before this Commission about the volume of interconnection requests from solar

[2] Oliver Testimony at 8.
[3] Oliver Testimony at 10-11.

developers in reportedly congested areas on its system[4]. Conducting analyses of this type would illuminate for solar developers the DER hosting capacity of a given circuit and allow solar developers to avoid congested circuits, while also allowing DEP to plan for increased grid configuration flexibility in areas with higher levels of DER capacity relevant to load.

Q. Should DEP be leveraging payments made by solar developers to upgrade the grid during the interconnection process?

A. Yes. Throughout the interconnection process, solar developers in South Carolina make significant financial investments that are used by utilities to both study and upgrade the distribution system. The South Carolina Generator Interconnection Procedures require a $10,000 Interconnection Request deposit plus $1 per kWac of project capacity for any project above 20 kW that does not qualify for the Fast Track process[5]. Additional expenses for studies, Upgrades and Interconnection Facilities are often also collected. For example, my employer, Southern Current LLC, has paid Duke Energy Carolinas and Duke Energy Progress over $1.2 million since 2015 for interconnection application and study related expenses in South Carolina. A well-developed grid improvements plan would identify ways in which these interconnection payments made by solar developers can be leveraged into larger grid related improvements that improve reliability and reduce costs for customers.

[4] Exhibit THD-5 at 9-10.
[5] South Carolina Generator Interconnection Procedures, Forms, and Agreements, Section 1.3.1.2

IV. INTEGRATED RESOURCE PLANNING (IRP)

Q. Are utility integrated resource plans relevant to distribution system investment planning?

A. Yes. Assumptions made about load growth, energy and capacity needs, emerging technologies, regulatory risks, fuel prices, technology costs and a litany of other factors appropriately considered in a robust integrated resource planning process should directly inform plans for new investments in a utility's distribution system. As noted in the recent report *Modernizing the Grid in the Public Interest: Getting a Smarter Grid at the Least Cost for South Carolina Customers*, "The grid exists to distribute electricity from the transmission grid and generation sources. IDP (integrated distribution planning) processes must therefore consider, and contribute to, transmission plans and integrated resource plans[6]."

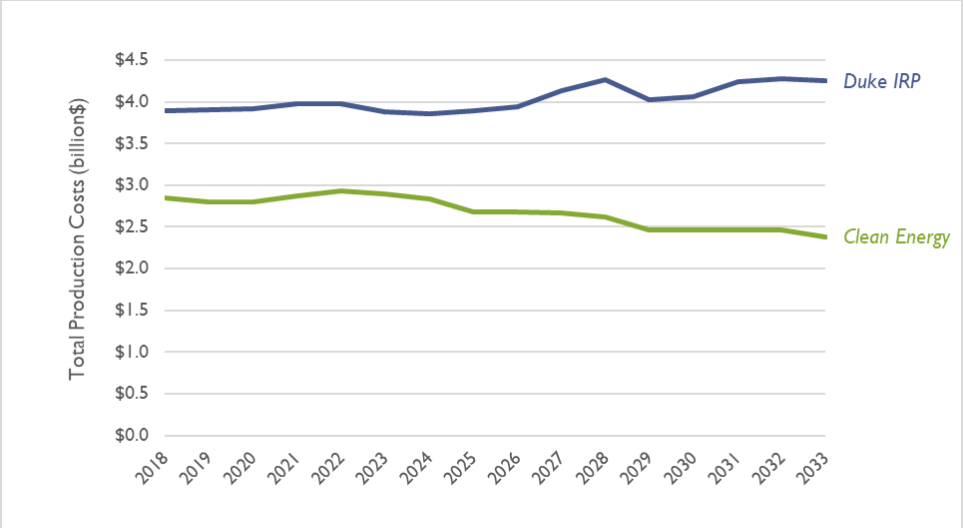
Q. Do you have specific concerns about the adequacy of DEP's current integrated resource plan as it relates to DEP's Grid Improvement Plan?

A. Yes. Integrated resource planning has evolved to become the cornerstone of responsible decision making related to electricity generation. Although South Carolina has not traditionally required of its utilities a robust integrated resource planning process, recommendations from the 2016 State Energy Plan[7] and merger settlement conditions reached between the SCSBA and Dominion Energy[8] both presaged a piece of energy legislation that has recently passed out of the South Carolina House of Representatives

[6] *Modernizing the Grid in the Public Interest: Getting a Smarter Gris at the Least Cost for South Carolina Customers*, GridLab (January 2019). Exhibit THD-2.
[7] Exhibit THD-1
[8] Exhibit THD-6

with a unanimous favorable vote of 110-0[9]. A common theme amongst the State Energy Plan, the merger settlement, and the energy legislation making its way through the General Assembly is a need for utilities to consider a range of portfolio options and conduct various scenario and sensitivity analyses in order to advance a robust resource plan that is in the best interest of customers. The current DEP integrated resource plan filed with this Commission falls short of those standards. In fact, an alternative analysis conducted by Synapse Energy Economics, Inc. on behalf of the SCSBA revealed that elevated levels of solar, storage, demand side management, and energy efficiency would significantly reduce costs to ratepayers while maintaining system reliability[10].

Figure 3. Annual Duke Energy total production cost by scenario



(*Modeling Clean Energy for South Carolina: An Alternative to Duke's Integrated Resource Plan*, Figure 3)

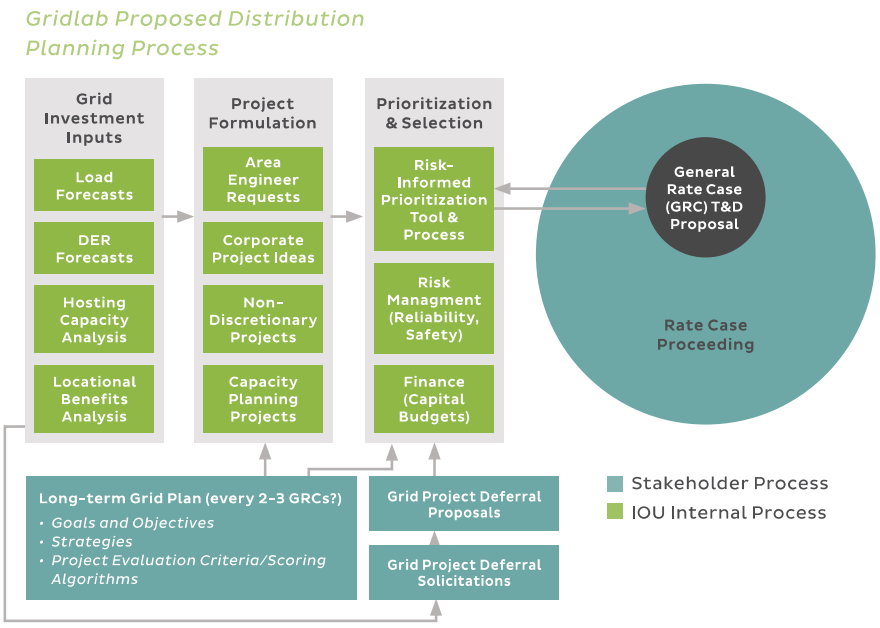
[9] Exhibit THD-3

[10] *Modeling Clean Energy for South Carolina: An Alternative to Duke's Integrated Resource Plan*, Synapse Energy Economics, Inc. (January 2019). Exhibit THD-4.

V. INTEGRATED DISTRIBUTION PLANNING

Q. What is entailed in integrated distribution planning?

A. The GridLab report on South Carolina identifies a series of best practices that are now being deployed by states across the country for purposes of integrated distribution planning. Their recommended approach is illustrated below, and a more detailed discussion of this topic can be found in the report[11].



Q. Did DEP engage in an adequate integrated distribution planning process when developing its Plan?

A. No. Although DEP has begun to lay the foundation for modernizing its grid, the process and the Plan itself do not reflect emerging best practices for identifying grid investments

[11] Exhibit THD-2.

that are in the economic best interest of its customers while evolving the distribution grid to respond effectively to the megatrends now facing South Carolina and the industry.

Q. Are there any statutory restrictions that would prohibit this Commission from establishing an integrated distribution planning process for South Carolina?

A. I am not aware of any statutory limitations that would prevent DEP or this Commission from utilizing an integrated distribution planning process. To the contrary, H.3659 (Section 58-37-40 (E)) would explicitly allow for distribution planning and integrated system operation plans to be part of the revised framework for conducting integrating resource planning in South Carolina[12]. By implementing a robust integrated distribution planning process, this Commission would also further an established goal of general ratemaking: ensuring rates are just and reasonable.

VI. CUSTOMER BENEFITS

Q. What benefits should customers expect from utility grid improvement plans?

A. *Modernizing the Grid in the Public Interest: Getting a Smarter Grid at the Least Cost for South Carolina Customers* recognizes a range of benefits that should accrue from well-crafted grid investment plans[13]. These include:

- Promotion of economic development through low electric rates through cost-effective grid investments, high grid asset utilization, and increased distributed energy resource deployment;

[12] Exhibit THD-3.
[13] Exhibit THD-2.

- Improved reliability and resilience;
- Accommodation of customer choice for DER and electrification;
- Energy capitalism and democracy through accurate price signals and access to energy usage data;
- Reductions in environmental impacts through reductions in energy use and clean energy resource adoption; and
- Reductions in peak demand.

Q. Are you confident that DEP's Plan will deliver these benefits to customers?

A. No. Because DEP has not conducted a rigorous integrated distribution planning process that includes adequate stakeholder engagement and transparency as to the expected outcomes from the significant proposed program investments, I do not have confidence that the DEP Plan as proposed will be in the best interest of South Carolina.

VII. COST RECOVERY

Q. Do you have concerns about DEP's proposal for recovering the costs associated with its Plan?

A. Yes. DEP is essentially requesting an advanced prudency review of its Plan from this Commission. Because there are no performance or benefits benchmarks within DEP's Plan that would allow this Commission to confirm the proposed grid investments are delivering an appropriate level of value to customers, any advanced prudency determination by this Commission would be inappropriate. With growth in energy sales continuing to remain relatively flat in South Carolina, capital intensive grid investments

will be an attractive option for utility shareholders. This can be a win-win for both customers and shareholders if done well, but if done poorly, these investments can also shift unwarranted risk and costs disproportionately onto customers. Making grid investments that are intended to benefit customers through programs focused on the deployment of energy conservation technologies and increased access to distributed energy resources should be accompanied by performance reviews that ensure those outcomes are actually achieved. Cost recovery should only be granted after those achievements have been verified.

Although DEP is not requesting advanced cost recovery for the capital expenditures needed to implement its Plan, an advanced prudency review of those expenditures is being requested. As this Commission well knows, advanced prudency review was a key element of the Base Load Review Act. Given South Carolina's recent history with this approach to pre-approval of utility expenditures combined with the lack of a transparent and comprehensive integrated distribution planning process for our state's utilities, it seems unreasonable to approve this approach to cost recovery.

VIII. CONCLUSION

Although my testimony has been critical of DEP's Plan as it exists today, the SCSBA believes the megatrends identified by DEP represent many of the considerable changes overtaking the electric industry. There is an acute need for South Carolina to embrace emerging industry best practices when it comes to distribution grid investments and integrated distribution planning processes, and DEP's Plan represents a starting point for

this Commission to work forward from. However, as outlined in my testimony, I believe this Commission should take the steps necessary for ensuring that proposed grid investments actually translate into solutions for 21st century challenges, like siting and interconnection of DER resources and measurable benefits for ratepayers, and that recovery of those investments is done in a way that appropriately allocates risk between utility shareholders and customers. Therefore, I recommend this Commission open a generic docket for purposes of establishing an integrated distribution planning process for South Carolina and require DEP to update and refile its Plan consistent with the requirements adopted within that future docket.

Q. Does this conclude your testimony?

A. Yes.